

Elliot Epstein

44 Olmsted Rd, Apt 109, Stanford, CA 94305 | (650) 391-4332 | epsteine@stanford.edu | elliotepstein.net

EDUCATION

Stanford University <i>Ph.D. in Computational and Mathematical Engineering</i> <i>Master of Science in Computational and Mathematical Engineering (GPA: 4.18/4.30)</i> <ul style="list-style-type: none">Coursework: Numerical Linear Algebra, Reinforcement Learning, Natural Language Processing, Optimization, Discrete Mathematics and Algorithms, Numerical and Theoretical PDEs, Stochastic Methods, Computer SystemsAnticipated Coursework: Deep Generative Models, Decision Making under Uncertainty, Data Mining, Parallel Computing, Bayesian Statistics	Stanford, California Jul. 2022 – Jun. 2025 Sep. 2021 – Jun. 2024
--	---

University of Oxford <i>Master of Science in Mathematical and Computational Finance</i> <ul style="list-style-type: none">Relevant Coursework: Stochastic Calculus, Financial Derivatives, Statistics and Financial Data Analysis, Numerical Methods, Financial Computing with C++, Fixed Income and Credit, Stochastic Control, Quantitative Risk Management, Deep Learning, Advanced Monte Carlo Methods, Algorithmic Trading, Optimization	Oxford, United Kingdom Sep. 2020 – Jul. 2021
---	--

KTH Royal Institute of Technology <i>Bachelor of Science in Engineering Physics (GPA: 4.94/5.00)</i>	Stockholm, Sweden Aug. 2017 – Aug. 2020
--	---

ETH Zurich <i>Exchange Student, Department of Mathematics</i> <ul style="list-style-type: none">Thesis: “A Review of the Article <i>Gradient Descent Provably Optimizes Over-parametrized Neural Networks</i>”	Zurich, Switzerland Sep. 2019 – Aug. 2020
--	---

Zhejiang University <i>Summer Project in Machine Learning</i> <ul style="list-style-type: none">Project title: “Semantic Image Segmentation Based on Deep Learning”	Hangzhou, China Jun. 2019 – Jul. 2019
---	---

Stockholm University <i>Bachelor of Science in Economics, Business Administration (selected courses)</i>	Stockholm, Sweden Aug. 2018 – Jan. 2019
--	---

WORK EXPERIENCE

Google <i>Software Engineering Intern</i>	Sunnyvale, California Jun. 2023 – Sep. 2023
---	---

Stanford University <i>Research Assistant</i> <ul style="list-style-type: none">Long sequence modeling with Prof. Christopher Re in the Stanford AI Lab <i>Research Assistant</i> <ul style="list-style-type: none">Machine learning to solve PDEs in Prof. Eric Darve’s lab <i>Course Assistant: Machine Learning (CS 229), Partial Differential Equations (MATH 220)</i> <ul style="list-style-type: none">Topics covered: Supervised learning (deep learning), unsupervised learning, reinforcement learning, PDEs	Stanford, California Sep. 2022 – Apr. 2023 Apr. 2022 – Sep. 2022 Jun. 2022 – Dec. 2022
---	--

EDF Trading <i>Intern, Quant and Data Group</i> <ul style="list-style-type: none">Developed a model in Python to predict the direction of the next trade of day ahead gas futures with over 70 percent accuracy using LOB data and an ensemble of LSTM networks trained on multiple GPUs in the cloudBuilt a web application to display real time predictions from neural network and random forest models to predict the 15-minute ahead closing price of month ahead gas futures	London, United Kingdom Apr. 2021 – Aug. 2021
---	--

Karolinska Institute <i>Research Assistant</i> <ul style="list-style-type: none">Developed a deep learning model to differentiate benign from malignant ovarian tumors, with specificity and sensitivity on par with an expert ultrasound examiner	Stockholm, Sweden Aug. 2019 – Apr. 2021
--	---

PUBLICATIONS

Elliot L. Epstein*, Daniel Y. Fu*, Eric Nguyen, Armin W. Thomas, Michael Zhang, Tri Dao, Atri Rudra, and Christopher Re. Simple Hardware-Efficient Long Convolutions for Sequence Modeling
In *ICML: Fortieth International Conference On Machine Learning*, July 2023
In *Mathematical and Empirical Understanding of Foundation Models workshop at ICLR*, 2023

F Christiansen, **E L Epstein**, E Smedberg, M Åkerlund, K Smith, E Epstein. Ultrasound image analysis using deep neural networks for discriminating between benign and malignant ovarian tumors: comparison with expert subjective assessment
In *Ultrasound Obstet Gynecol*, 2021

SKILLS

Technical (in order of proficiency): Python (NumPy, PyTorch, TensorFlow, Keras, Flask, Gym, pandas, Horovod), C++, C, MATLAB, Latex, Linux, GitHub, Bloomberg Terminal, Azure Machine Learning, Docker, R
Languages: Swedish (fluent), English (fluent), German (intermediate), Spanish (basic)